Subject: Influence of the reduced B-field on the track reconstruction
Posted by donghee on Fri, 21 Mar 2014 23:50:47 GMT
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Hi Stefano,

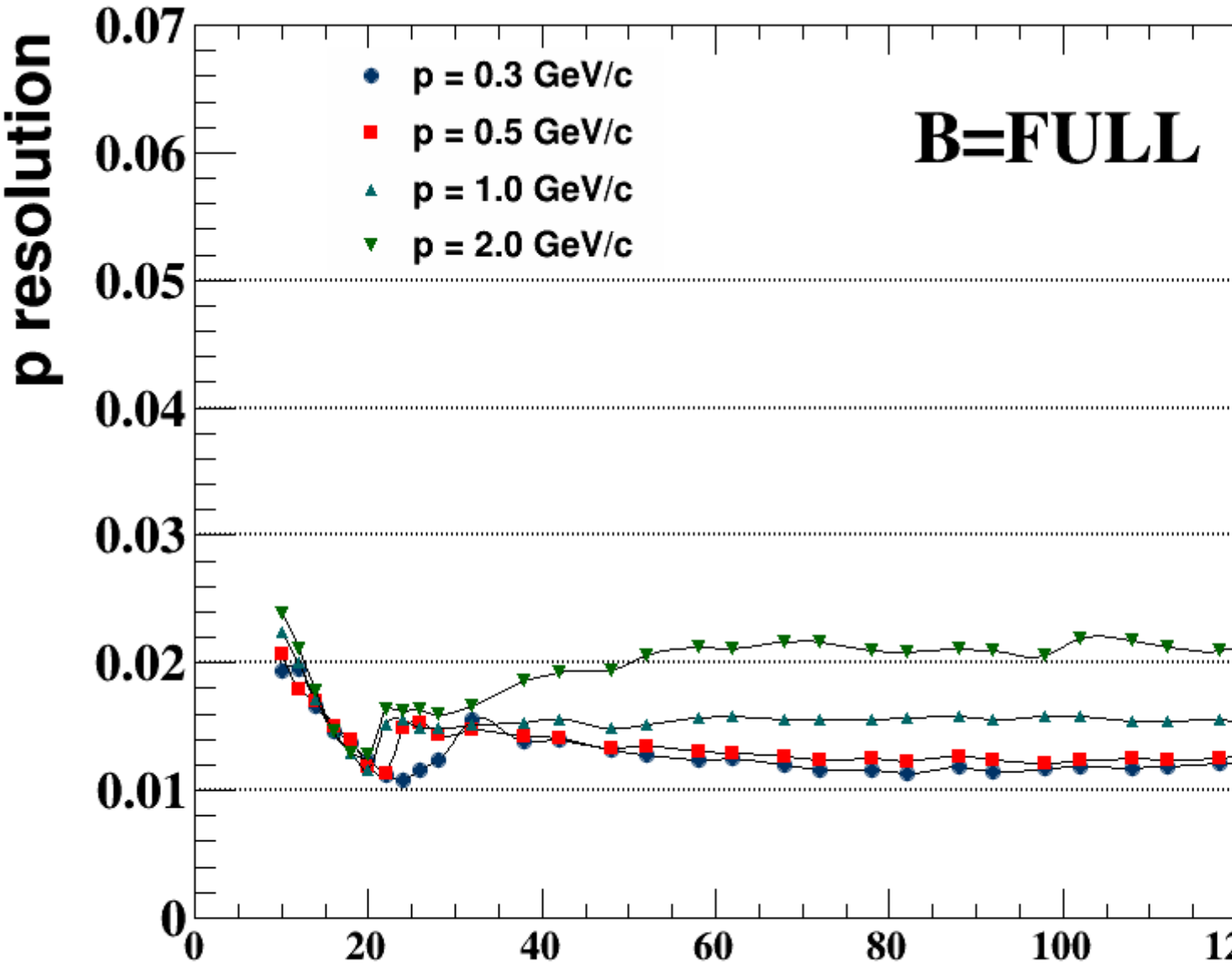
I try to see the effect of reduced B-field, which was intensively discussed during this week.
Two plots are produced to compare the momentum resolution with two diffrent field map configurations for "FULL" and "HALF".
Simulation has been made with single Muon particle with momentum range starting from 0.3 GeV upto 2 GeV, and scan theta between 10 and 148 degree.
PANDAroot Jan14 has been used and simulation codes are attached to cross check.
The pull distributions of momentum for p=0.3 GeV and both Half and Full field map configurations cases are also attached to make sure the fit procedure. (Gauss+Pol(3) has been used.)

The momentum resolution with half field map is factor 2 times worser than FULL field map.
If you want to check the analysis code, please let me know, I will send you.

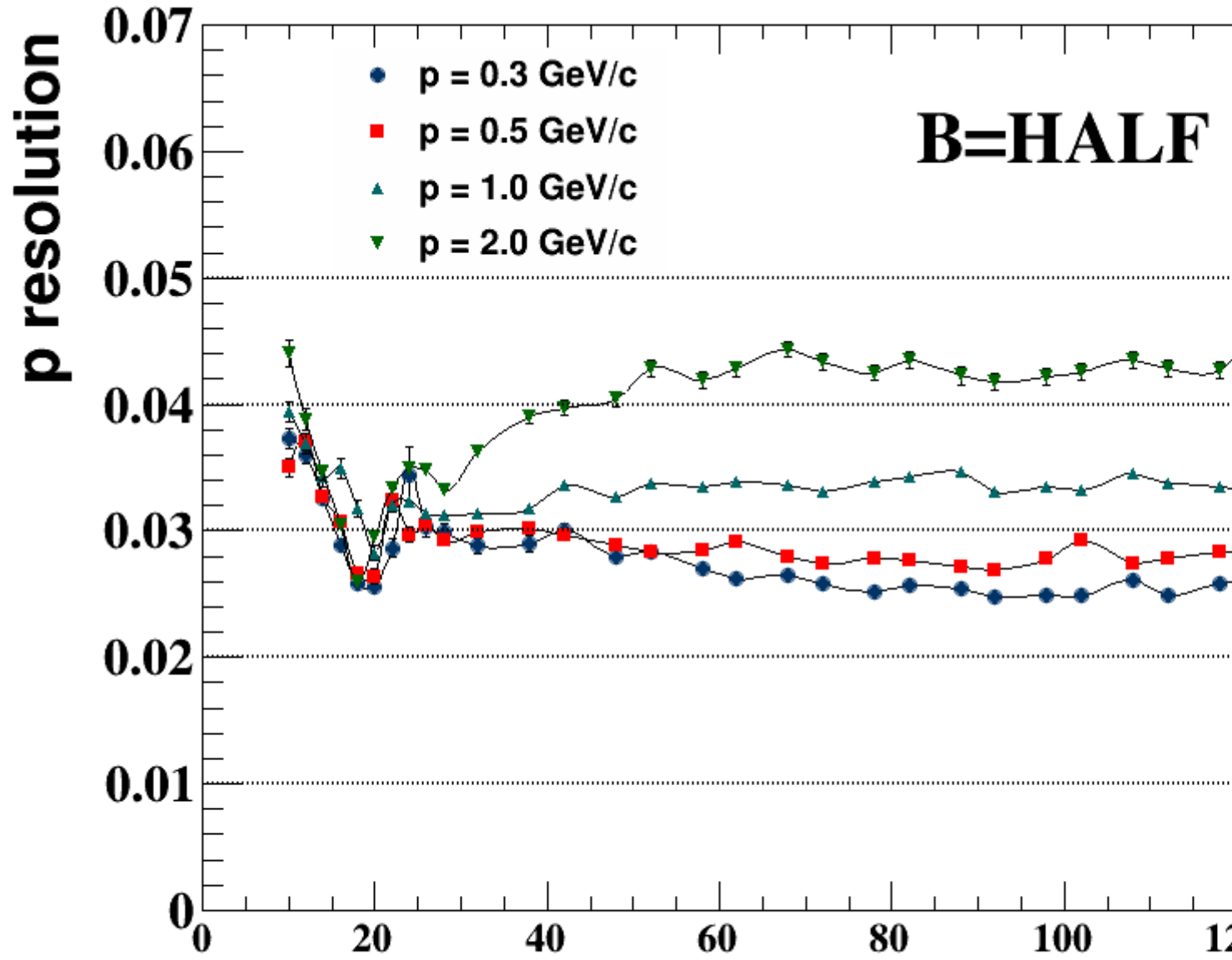
Best wishes,
Donghee

File Attachments

1) run_pid_dig.C, downloaded 482 times
2) run_pid_pid.C, downloaded 480 times
3) run_pid_rec.C, downloaded 468 times
4) run_pid_sim.C, downloaded 448 times
5) resolution_B_half_03.pdf, downloaded 469 times
6) resolution_B_full_03.pdf, downloaded 448 times
7) summary_for_B_full.pdf, downloaded 449 times
8) summary_for_B_full.png, downloaded 1176 times



9) summary_for_B_half.pdf, downloaded 450 times
10) summary_for_B_half.png, downloaded 1035 times


p resolution
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
20
40
60
80
100
p = 0.3 GeV/c
p = 0.5 GeV/c
p = 1.0 GeV/c
p = 2.0 GeV/c
B=HALF